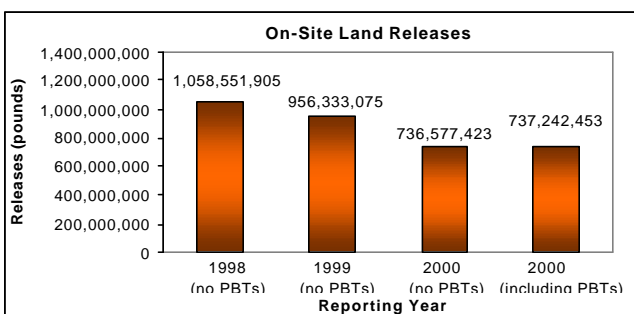
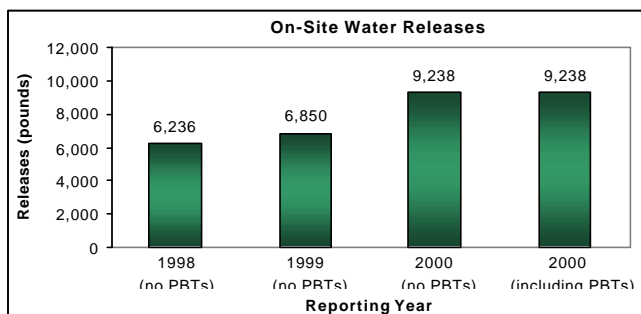
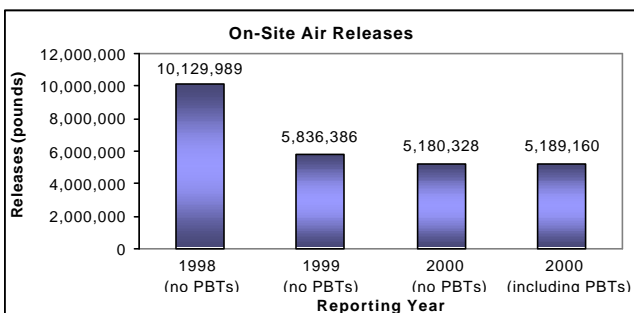
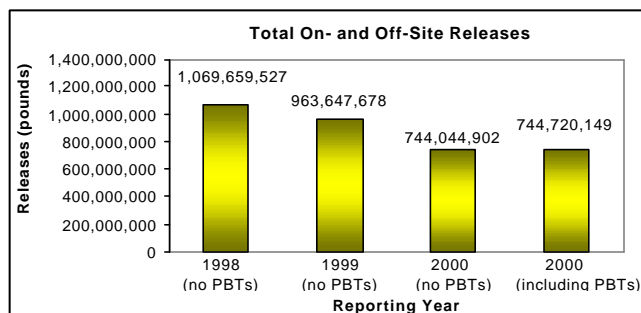




Arizona Report: 2000 Toxics Release Inventory

U.S. EPA Region 9
Arizona, California,
Hawaii, Nevada,
and the Pacific
Islands

Toxic Chemical Releases: 1998-2000



Note: In order to allow a direct comparison of 1998, 1999 and 2000 releases, the data must be controlled for changes in the list of reportable chemicals—namely, lower thresholds for persistent, bioaccumulative, and toxic (PBT) chemicals. A table detailing the 2000 PBT releases is provided in a following section of this fact sheet.

The 2000 Public Data Release

EPA has just made public the 2000 data on toxic chemicals that were released to Arizona's air, water and land. This information comes from the Toxics Release Inventory (TRI), a federal community right-to-know program. In Arizona, 252 facilities reported a total of 745 million pounds of toxic chemical releases*.

It is important to note that release should not be directly equated with risk. To evaluate risk, release data must be combined with information about chemical toxicity, site-specific conditions, and exposure. In

addition, this data does not indicate whether a facility is violating environmental laws. Many of the substances reported through this program are subject to state and federal regulations designed to protect human health and the environment.

Industries

Manufacturing industries have been reporting their releases since 1987 and federal facilities started reporting in 1994. In 1998, seven new industry sectors began reporting their toxic chemical releases for the first time. These new sectors are metal and coal mining, electricity generation, commercial hazardous

* Release is defined as the amount of a toxic chemical released on-site (to air, water, underground injection, landfills and other land disposal), and the amount transferred off-site for disposal. When comparing data from year to year, the data is normalized to account for changes in the list of reportable chemicals and other variables.

waste treatment, solvent recovery, petroleum bulk terminals, and wholesale chemical distributors.

Releases

As a whole, for all industries, total reported on- and off-site releases in Arizona fell by 23% from 1999. Most of this reduction can be attributed to decreases in on-site land releases from copper mining facilities. Several major facilities have significantly cut back operations, and one, BHP Copper San Manuel, has shut down.

Surface water discharges increased by 35%, due in large part to greater releases from North Star Steel in Kingman, and Phelps Dodge Mining Co Copper Queen Branch in Bisbee.

Air emissions decreased by 11% from 1999 levels, with drops coming from a variety of industries, but led by copper mines and three electricity generators.

Off-site disposal releases increased by 55%, due primarily to North Star Steel of Kingman and Innovative Waste Solutions of Phoenix.

New Data—Persistent, Bioaccumulative, and Toxic Chemicals

For the year 2000, TRI was expanded to include additional persistent, bioaccumulative and toxic (PBT) chemicals, and required reporting for these chemicals at lower thresholds. PBT pollutants are chemicals that are toxic, persist in the environment and bioaccumulate in food chains, posing risks to human health and ecosystems.

Seven new chemicals and two chemical categories were added to the reporting list of over 650 chemicals. Additionally, reporting thresholds for 18 chemicals and chemical categories have been lowered; new thresholds range from 0.1 grams to 100 pounds.

In Arizona, 38,351 pounds of on- and off-site releases of PBT chemicals were reported. A significant portion of this total is comprised of land releases of mercury compounds from copper mining facilities. Polycyclic Aromatic Compounds are another major PBT chemical in Arizona, with 1,146 pounds of reported air releases. The following table gives the total amount of PBT releases reported in Arizona. The data are in pounds for all chemicals except dioxin, which is given in grams.

Table of PBT Releases in Arizona

<i>Chemical</i>	<i>Air</i>	<i>Water</i>	<i>Land</i>	<i>Off-Site Disposal</i>	<i>Total On- and Off-Site</i>
Mercury Compounds	1,432.18	0.00	33,590.55	204.58	35,227.31
Polycyclic aromatic compounds (PAC's)	1,145.52	0.00	87.00	0.00	1,232.52
Chlordane	0.00	0.00	0.00	782.00	782.00
Mercury	669.01	0.00	37.00	0.00	706.01
Tetrabromobisphenol A	2.00	0.00	0.00	268.00	270.00
Toxaphene	0.00	0.00	0.00	121.00	121.00
Benzo(g,h,i)perylene	1.02	0.00	11.14	0.00	12.16
Dioxin and dioxin-like compounds (in grams)	14.240	0.000	0.016	0.000	14.256

Releases of persistent, bioaccumulative and toxic (PBT) chemicals, in pounds. Dioxin and dioxin-like compounds data not in grams, not Toxicity Equivalents (TEQ)

Dioxin

In Arizona, 17 facilities reported releases of dioxin and dioxin-like compounds, for a total of 14.256 grams of on- and off-site releases. The majority of these releases were to the air. Ten facilities in the electricity generating sector reported air releases totaling 11.26 grams. Other industries reporting for dioxin include the copper mining, paper milling, hydraulic cement manufacturing, lime processing, and secondary smelting.

Mercury and Mercury Compounds

Eighteen facilities reported a total of 35,933 pounds of on- and off-site releases, of which 33,627 is reported released to the land, mostly by copper mining facilities. Of the air releases, which total 2,101 pounds, the electricity generating sector contributed the most, with six facilities reporting approximately 1,400 pounds of releases. Facilities in the primary metals and hydraulic cement industries also reported air releases of mercury compounds.

Top Facilities for Releases

The top 10 facilities for on- and off-site releases in Arizona are:

- 1: Asarco Inc., Ray Complex/Ray Ops. Mine (Kearny, Pinal County) with 155.1 million pounds
- 2: Asarco Inc. Mission Complex (Sahuarita, Pima County) with 149.4 million pounds
- 3: Phelps Dodge Miami Inc. (Claypool, Gila County) with 145.1 million pounds
- 4: Phelps Dodge Bagdad Inc. (Bagdad, Yavapai County) with 95.3 million pounds

- 5:** Phelps Dodge Morenci Inc. (Morenci, Greenlee County) with 86.6 million pounds
6: Phelps Dodge Sierrita Inc. (Green Valley, Pima County) with 58.8 million pounds
7: Asarco Inc. Ray Complex/Hayden Smelter & Concentrator (Hayden, Gila County) with 37.0 million pounds
8: Silver Bell Mining L.L.C. (Marana, Pima County) with 3.6 million pounds
9: Navajo Generating Station (Page, Coconino County) with 2.9 million pounds
10: Springerville Generating Station (Springerville, Apache County) with 2.0 million pounds

On-line Access

For national information on data release, see
<http://www.epa.gov/tri>

The TRI data is available through the Envirofacts Warehouse, EPA's premier Internet site for distributing environmental information at <http://www.epa.gov/enviro>

or the TRI Explorer tool:
<http://www.epa.gov/triexplorer>

For general information on the Toxics Release Inventory, including reporting requirements for businesses, go to
<http://www.epa.gov/region09/toxic/tri>

For more information on the EPA's PBT Chemicals Program:
<http://www.epa.gov/opptintr/pbt/>

Information and Assistance

We will be more than happy to answer your questions and assist you in learning more about the Toxics Release Inventory program in Region 9.

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